

**MINISTRY OF AGRICULTURE, LIVESTOCK AND FOOD SUPPLY  
SECRETARIAT OF AGRICULTURE AND LIVESTOCK DEFENSE**

**NORMATIVE INSTRUCTION No. 27 OF APRIL 20, 2004.**

THE SECRETARY OF AGRICULTURE AND LIVESTOCK DEFENSE OF THE MINISTRY OF AGRICULTURE, LIVESTOCK AND FOOD SUPPLY, in accordance with the duties and responsibilities assigned thereto by Article 15, item II, Annex I, Decree No. 4,629, of March 21, 2003, and in compliance with the provisions of the Animal Sanitary Defense Regulation, approved by Decree No. 24,548, of July 3, 1934, and

Considering the existence of a Zone Free of the Classical Swine Fever in the Country, as declared by Normative Instruction No. 01, of January 4, 2001, and in accordance with Judicial Proceeding No. 21000.001074/2006-37, hereby resolves:

Art. 1 – To approve the CONTINGENCY PLAN FOR CLASSICAL SWINE FEVER, which shall be effective throughout the national territory, as provided for in the Annex to this Normative Instruction.

Art. 2 – This Normative Instruction shall enter into force on the date of publication thereof.

MAÇAO TADANO

**THIS TEXT SHALL NOT SUBSTITUTE THE PROVISIONS PUBLISHED IN THE OFFICIAL DAILY  
GAZETTE OF THE UNION OF 04/27/2004,**



**GOVERNO FEDERAL**  
Ministry of Agriculture, Livestock and Food Supply  
Secretariat of Agriculture and Livestock Defense

## **CONTINGENCY PLAN FOR CLASSICAL SWINE FEVER**

Department of Animal Defense  
Coordination of Sanitary Programs  
National Swine Health Program



**SUMMARY**

<b>I. DEFINITIONS .....</b>	<b>03</b>
<b>II INTRODUCTION .....</b>	<b>04</b>
.....	04
1. Background.....	04
2. Justification .....	04
3. Objective .....	04
<b>III. EPIDEMIOLOGICAL CHARACTERIZATION.....</b>	<b>05</b>
1. Minimum sanitary conditions .....	05
2. Epidemiological situations .....	06
Risk I .....	06
Risk II .....	06
Risk III .....	06
<b>IV. SANITARY EMERGENCY .....</b>	<b>06</b>
<b>V. SANITARY EMERGENCY TEAM .....</b>	<b>07</b>
1. Responsibilities of the sanitary emergency team .....	07
2. Duties and responsibilities of coordination units .....	07
General Coordination Unit.....	07
Field Coordination Unit.....	07
Laboratory Coordination Unit.....	08
Administrative and Financial Coordination Unit.....	08
Communications and Public Relations Coordination Unit.....	08
Legal Affairs Coordination Unit.....	08
<b>VI. OPERATIONAL PROCEDURES IN VETERINARY CARE.....</b>	<b>08</b>
1. Notification of suspicion .....	08
2. Attention to notification.....	08
3. Visit to the property with suspicion of CSF .....	09
<b>VII. DETERMINATION OF THE AFFECTED ZONE AND SANITARY MEASURES TO BE TAKEN IN THE CSF FOCUS .....</b>	<b>10</b>
<b>VIII. PROCEDURES TO BE FOLLOWED IN SANITARY EMERGENCY.....</b>	<b>10</b>
1. Measures in the focus.....	10
1.1. Evaluation of animals, products and materials .....	10
1.2. Sanitary slaughter .....	11
1.3. Destruction of Slaughtered Animals .....	11
1.3.1. Cremation .....	11
1.3.2. Burial.....	12
1.4. Clean-up and disinfection.....	12
1.5. Sanitary void, introduction of sentinels and repopulation... ..	12
2. Epidemiological Tracing.....	13
3. Measures to be taken in internal protection zones.....	14
3.1. Actions to be developed.....	14
3.1.1. Interdiction .....	14
3.1.2. Population census.....	15
3.1.3. Transit of products and byproducts of swine origin and other materials.....	15
3.1.3.1. Permission for the exiting of swine.....	15
3.1.4. Maintenance of measures.. ..	16
4. Measures to be taken in the external surveillance zone... ..	16
4.1. Actions to be developed.....	16
4.1.1. Interdiction .....	16
4.1.2. Population census.....	17
4.1.3. Transit of products and byproducts of swine origin and other materials.....	17
4.1.3.1. Permission for the exiting of swine.....	17
4.1.4. Maintenance of measures.....	18
5. Procedures in slaughterhouses.....	18
6. Fixed and mobile inspection posts.....	18
7. Vaccination against CSF .....	19
<b>IX. ANNEXES .....</b>	<b>20</b>
Annex I – Equipment and materials for emergency actions – CSF .....	20
Annex II – Characteristics of Classical Swine Fever (CSF) – OIE .....	21

## I. DEFINITIONS

1. Breeding establishment means the places where swine are maintained or bred for any purpose.
2. Focus means the breeding establishment or any other place where the presence of one or more swine infected with CSF has been detected.
3. Interdiction means prohibiting swine as well as products or byproducts thereof or materials that could be a potential source of transmission of the disease, at the discretion of the official veterinary service, from entering and exiting a breeding establishment for any purpose.
4. Official laboratory means the laboratory belonging to the network of the Ministry of Agriculture, Livestock and Food Supply.
5. Slaughterhouse means the facilities used for slaughtering animals intended for human consumption or other purposes and which are submitted to official veterinary inspection.
6. Accredited veterinarian means the professional accredited by the official veterinary service, pursuant to specific legislation.
7. Official veterinarian means the professional of the official veterinary service.
8. Classical Swine Fever (CSF) means the communicable disease caused by a pestivirus that infects swine.
9. Contingency Plan means the set of emergency procedures and decisions to be made in the case of unexpected outbreak of a focus, for the purpose of controlling and eradicating the CSF agent as soon as possible, thus reducing as much as possible consequent productive and economic losses.
10. Owner means any natural person or legal entity that is either the owner, depositary, or at any other title, holds in his/her power or under his/her custody one or more swine.
11. Quarantine means the transit restriction and observation of groups of apparently healthy animals that are exposed to the risk of infection and that, at the moment in question, have no direct contact with infected animals. The purpose of the quarantine is to prevent possible chain transmission of the disease to other animals that are not directly exposed to it.
12. Sanitary killing means the operation carried out by the official veterinary service when an outbreak of CSF is confirmed. It consists in killing all sick, contact and contaminated animals in the herd and, if necessary, other herds that have been exposed to the infection by direct or indirect contact with the pathogenic agent, and destroying the carcasses by incineration or burial.
13. Official veterinary service means the federal, state or municipal animal sanitary defense agency.
14. Swine means any animal of the *Sus* gender (pigs and boars).
15. Swine infected with CSF means any swine in which clinical symptoms or signs consistent with CSF have been officially detected and the diagnosis confirmed by laboratory tests.
16. Swine with suspicion of having been infected with CSF means any swine with clinical symptoms or signs consistent with CSF, or a reaction to a laboratory test indicating the possible presence of CSF.
17. External surveillance zone means the area established by the official veterinary service around the internal protection zone, within a minimum radius of 10 km from the focus.
18. Internal protection zone means the area adjacent to a focus, the limits of which will be established by the official veterinary service, with due regard for geographic and epidemiological factors, within a minimum radius of 3 km.
19. Zone free of CSF means the zone where the absence of the disease has been demonstrated according to the recommendations of the International Zoosanitary Code of the World Organization for Animal Health (OIE).

## II – INTRODUCTION

### 1. Background

The activities to combat Classical Swine Fever (CSF) were first introduced in priority zones selected according to the economic relevance of the swine producing zone and based on the existence of epidemiological conditions favorable for obtaining free zones, for the ultimate purpose of eradicating the disease in the national territory.

The National Program for the Control and Eradication of Classical Swine Fever was introduced in 1992, initially in adjacent municipalities in the states of Rio Grande do Sul, Santa Catarina and Paraná. The Program was gradually extended to other municipalities in these three states and later on to the other Brazilian states.

On January 4, 2001, through Normative Instruction No. 1, the Brazilian Minister of Agriculture, Livestock and Food Supply declared the region formed by the States of Rio Grande do Sul, Santa Catarina, Paraná, São Paulo, Minas Gerais, Mato Grosso do Sul, Mato Grosso, Goiás, Tocantins, Rio de Janeiro, Espírito Santo, Bahia, Sergipe and the Federal District as a Zone Free of Classical Swine Fever.

### 2. Justification

Regardless of how strict the protection sanitary measures taken by a country, a region or a zone free of a disease might be, there is no absolute guarantee that the infectious agent will not be introduced or reintroduced.

Nowadays, as a result of technological advances, the international transit of people, animals and animal reproduction materials as well as products and byproducts of animal origin has grown significantly, thus increasing the risk of disseminating diseases among countries.

When a disease is introduced in a country or zone that had so far been free of such disease, the actions to be taken in order to eradicate it must be strong, quick and effective. It becomes therefore necessary to have an appropriate organization, trained personnel, legal support, suitable equipment and materials, and sufficient funds.

Classical Swine Fever is classified as a disease in the A list of the World Organization for Animal Health (OIE) and its occurrence results in serious consequences to animal welfare, the swine production, the exporting of animals and products thereof, and the environment. This disease is highly contagious, has a great power of dissemination, is especially serious and may extend beyond national borders, causing serious socioeconomic and sanitary damages or hindering or disabling the international trade of animals and products of animal origin.

### 3. Objective

The objective here is to guide actions and procedures towards the early and immediate notification and confirmation of suspected outbreaks of Classical Swine Fever in the national territory, by taking the necessary sanitary defense measures aimed at eradicating the disease within the shortest time possible, and resuming the sanitary condition of free of CSF. For this objective to be achieved, it is indispensable to have a CONTINGENCY PLAN in place establishing, step-by-step, the required sanitary measures.

### III. EPIDEMIOLOGICAL CHARACTERIZATIONS

#### 1. Minimum sanitary conditions

In most countries, the prevailing zoonosanitary management strategy is focused on designing and applying measures that minimize the risk of introduction or reintroduction of a disease in a free country or zone.

Effective activities of different natures are required to minimize the risk of CSF reintroduction and to enable the immediate detection and adoption of the necessary measures to eradicate any possible focus. The official veterinary service should be underpinned in the following conditions:

- Appropriate operational framework;
- Sufficient financial resources;
- Legal support for the actions, provided for in specific legislation;
- Human and material resources and equipment for effective epidemiological surveillance and veterinary care;
- Personnel trained in sanitary emergency, with an emphasis on CSF;
- Permanent and effective Sanitary Education Program, so as to ensure effective community participation. Farmers should be aware of and motivated towards the actions developed and recognize the relevance of each of such actions;
- Swine identification tracing system, which is a fundamental action for the successful management of sanitary emergencies;
- Prohibition to raise swine in city dumps;
- Control the use of leftovers to feed swine;
- Interaction between the Official Federal, State and Municipal Inspection and Animal Sanitary Defense Services, with a view to the immediate exchange of information in case of suspicion of CSF;
- Information system that enables the timely adoption of sanitary measures to prevent and control animal diseases;
- Exchange of sanitary information among the sanitary departments of corporations/integrating cooperatives, accredited and private sector veterinarians and the official veterinary service;
- Active surveillance of independent swineculture, including in subsistence farming;
- Updated register of swine breeders and transporters;
- Support from agencies and entities linked to the swine production chain and public bodies (City Halls, the Military Police, Finance Secretariat, etc.);
- Updated list of risk sites: agroindustries, slaughterhouses, landfills, dairy industries, pet food industries, agriculture and livestock shops, bus stations, airports, ports, tanning establishments, etc.;
- Permanent monitoring and evaluation of animal health activities, with a view to ensuring the standardization of actions;
- Effective official follow-up of the sanitary activities adopted in the GRSC (Farms of Certified Swine Breeders – FCSB);
- Funds for payment of compensations for the destruction of herds and things;
- Cleaning and disinfection of swine transportation trucks after unloading in slaughterhouses; these actions should be inspected at fixed and mobile posts, with a view to controlling the transit of animals and products and byproducts thereof;
- Effective action by the State Swine Health Committee;
- Performance of periodic serum epidemiological inquiries for keeping the Zone Free of CSF;
- Control and inspection of swine transit, products and byproducts thereof, pathological and biological products;
- Sanitary surveillance in ports, airports, frontier posts and *collis postaux*;

- Control and inspection of areas of swine concentration;
- Updated sanitary requirements for authorizing the importing of swine, animal reproduction materials (semen and embryos), and of products and byproducts of swine origin;
- CSF diagnosis laboratories capable of performing the tests with the necessary swiftness and efficacy; and
- Maintenance of a strategic stock of vaccine against CSF.

## 2. Epidemiological situations

The actions of the animal sanitary defense system are based on the existing level of sanitary risk in each situation, as follows:

### 2.1 RISK I

- Absence of CSF foci in the past 12 months;
- All minimum conditions are met;
- Situation in the states that make up the zone free of CSF.

### 2.2 RISK II

- Absence of CSF foci in the past 12 months;
- All minimum conditions are met;
- Characterized by the identification of internal and/or external sanitary risks that could lead to the reintroduction of CSF.

In this situation, depending on the risk assessment, the official veterinary service can declare a “state of animal sanitary emergency” and all actions related to the minimum risk situation should be taken and those related to the items below strengthened:

- Epidemiological surveillance;
- Serological investigation;
- Control and inspection of animal concentration sites;
- Control and inspection of interstate transit by mobile teams;
- Control and inspection of the entry of animals, animal reproduction materials, products and byproducts of swine origin, people and equipment in ports, airports, and frontier posts;
- Control and inspection of the entry of aircrafts, vessels and terrestrial vehicles coming from abroad;
- Exchange of sanitary information among countries.

### 2.3. RISK III

- Characterized by the emergence of CSF foci – **SANITARY EMERGENCY.**

## IV. SANITARY EMERGENCY

Is the set of sanitary actions aimed at preventing dissemination of the disease and eradicating the CSF focus within the shortest time possible and at the lowest cost for the country. These actions should be carried out by a group of professionals trained in sanitary emergency.

## V. SANITARY EMERGENCY TEAM

The sanitary emergency team should be established by legal act and comprised of professionals from the federal and state official veterinary services and include, as a minimum a(n):

- General Coordination Unit;
- Field Coordination Unit;
- Laboratory Coordination Unit;
- Administrative/Financial Coordination Unit;
- Communications and Public Relations Coordination Unit;
- Legal Affairs Coordination Unit.

### 1. Responsibilities of the sanitary emergency team

- To implement the animal sanitary defense policy determined by the Contingency Plan;
- To request, where necessary, the collaboration of representatives of other sectors involved in the eradication and meet with these regularly, so as to follow up and evaluate all aspects related to field operations;
- To request, where necessary, the technical assistance and cooperation of national or international consultancy;
- To appoint an epidemiologist to advise the Field Coordinator.

### 2. Duties and responsibilities of the Coordination Units

#### 2.1. General Coordination Unit

- a) To mobilize and coordinate the emergency team and required professionals;
- b) To involve the institutions and entities that will participate in the works;
- c) To establish the evaluation and taxation committee, comprised of a representative of the Production Sector, a representative of the federal official veterinary service, and a representative of the state official veterinary service.

#### 2.2. Field Coordination Unit

- a) To coordinate all daily operations related to field emergencies and the action strategies adopted;
- b) To appoint and oversee the following committees:
  - Epidemiological surveillance: responsible for the information system as well as for activities involving tracing, inspection, the use of sentinel animals, repopulation, quarantine, animal transit, installation of fixed and mobile posts, and control of animal concentration sites;
  - Slaughter and destruction;
  - Cleaning and disinfection of facilities and vehicles and other biosecurity procedures;
  - Communication and sanitary education;

**Note:** The heads of these committees will be in charge of leading and executing the actions related to their tasks, so as to achieve the specific objectives thereof.

- c) To ensure logistic support for the committees;
- d) To demarcate protection and surveillance areas as well as areas for the establishment of fixed and mobile posts;
- e) To make contact with authorities and other local segments that could provide assistance or be linked to the swine sector;



- f) To ensure that all field reports are prepared and submitted to the General Coordination Unit in a timely manner.

### 2.3. Laboratory Coordination Unit:

To work with the Field Coordination Unit so as to ensure that samples are properly collected, processed, identified, packed and dispatched.

### 2.4. Administrative and Financial Coordination Unit:

To work with the General Coordination Unit with a view to preparing budgets and procuring, distributing and ensuring the supply of materials and services.

To coordinate and manage the evaluation and taxation committee.

### 2.5. Communications and Public Relations Coordination Unit:

To work with the General and Field Coordination Units by providing information and ensuring that this reaches the media and competent authorities in a properly manner.

### 2.6. Legal Affairs Coordination Unit:

To advise the General and Field Coordination Units with respect to legal matters and handle all legal processes inherent in sanitary emergencies.

## VI. OPERATION PROCEDURES IN VETERINARY CARE

### 1. Notification of suspicion

- A permanent information system shall be maintained on a permanent basis, so that disease outbreaks can be promptly notified and handled;
- Every veterinarian, owner and transporter of animals, or any other citizen that gains knowledge of a suspected outbreak of CSF or of any other disease with a similar clinical picture should, pursuant to the legislation in force, immediately notify the closest unit of the official veterinary service;
- The notification can be provided personally, by telephone, fax or any other available media.

### 2. Attention to the notification

- Where the person providing the notification is the owner or person in charge, he/she should be informed of the prohibition to move swine and products and byproducts thereof from the farm, until the official veterinary service has defined the measures to be taken;
- To record the fact, including date and time, in the Local Unit's log;
- To gather as much information as possible on the breeding establishment under suspicion, such as geographic location, natural barriers, access routes, registration data, type of breeding establishment, neighboring establishments, existing swine population, entry and exit of animals in the past 30 days, production data, previously notified diseases, slaughterhouses and establishments selling products and byproducts of swine origin;
- To inform the sanitary management immediately;
- To have the materials and equipment required to handle a focus (Annex I) as well as the following documents: FORM-IN, Term of Visit to the Swine Farm, and Interdiction Notice.

### 5.3 – Visit to the farm suspected of CSF

a) To organize the visit on a priority basis, no later than 12 hours after notification, and follow the procedures below:

- First of all, visit the breeding establishment suspected of CSF by going straight to the main house, office or management, in order to collect information from the owner or person in charge. Avoid driving an official vehicle into the property;
- Change clothes, wearing preferably disposable clothes and using disposable materials when entering the premises where the animals are kept;
- Fill out the Term of Visit to a Swine Farm;
- Perform the clinical examination of sick animals with the assistance of a minimum of official or private staff and avoid moving or grouping susceptible animals;
- Investigate the establishment and perform a clinical examination in apparently healthy animals;
- Where the suspicion is unquestionable and confirmed, fill out the FORM-IN and the Interdiction Notice, collect samples and communicate the sanitary authority immediately, so that all necessary emergency actions can be promptly taken;
- Send the material collected to the laboratory at:

Laboratory de Apoio Animal – LAPA/RECIFE  
 Address: Rua Dom Manoel de Medeiros, s/nº  
 Dois Irmãos – Campus UFPE  
 CEP: 52171 - 030  
 RECIFE – PE  
 TELEPHONE: (081) 3441-6311

**IMPORTANT:** Inform the LAPA/Recife immediately of the airway bill number as well as the flight number and time of arrival of the material.

b) To collect the material

- Collect blood samples from sick and healthy animals so as to compare antibody titers for the CSF virus. For the serological diagnosis, send to the laboratory clear serums, free of hemolysis, at a minimum of 3 ml per animal. The serums should be frozen and immediately sent to the *Laboratório de Apoio Animal* (Animal Support Laboratory) – LAPA – Recife/PE;
- Euthanize sick animals and collect samples of tissues, preferably tonsils (*tonsilas palatinas*), spleen, pharynx and mesenteric ganglions and distal portion of the ilium, in the following conditions:
  - Send at least 20 grams of each organ;
  - Send organ fragments in separate plastic bags properly identified by animal;
  - Pack samples under refrigeration and send them immediately to the LAPA – Recife/PE. If it is not possible to have the material arrive at the Laboratory within 48 hours after collection, freeze the material;
  - All collected materials should be listed in the FORM-IN and carefully identified with a label or adhesive tape written in pencil, and protected with transparent tape.
- Each and every collection of suspected material should follow the rules of the LAPA – Recife/PE and be sent accompanied with the FORM-IN and a memorandum forwarding the material and requesting the tests and indicating the number and type of samples being sent.
- Arrange for the destruction (burial or cremation) of the carcasses of the animals killed for sample collecting purposes.

- When leaving the suspected establishment, clean up and disinfect the equipment and materials used in clinical examinations and sample collections, doing the same to the vehicle. Incinerate all disposable working clothes.
- Where the laboratory result is negative for CSF, interdiction of the establishment should be suspended, but the epidemiological surveillance should be maintained for 21 days. The samples will be used for a differential diagnosis, which will determine the measures to be taken.

## **VII. DETERMINATION OF THE AFFECTED ZONE AND SANITARY MEASURES TO BE TAKEN IN THE CSF FOCUS**

Where the laboratory diagnosis is positive for CSF or the suspicion is unquestionable and confirmed, the emergency team should be called in so that the Contingency Plan can be executed and the necessary legal measures taken.

Where a CSF outbreak is confirmed in exhibit, fair or auction facilities or other sites of swine concentration, the whole area should be considered a focus and be subject, as appropriate, to the sanitary measures provided for in this Contingency Plan.

The General Coordination Unit will request the cooperation of public entities and agencies (the military police, city halls and others), with a view to ensuring isolation of the focus, strengthening preventive sanitary measures and guaranteeing implementation of the Contingency Plan.

The Field Coordination Unit will immediately determine the following actions:

- a) Establishment of the main office headquarters;
- b) Establishment of the following areas of action:
  - Focus
  - Internal protection zone
  - External surveillance zone
- c) Establishment of fixed and mobile inspection posts in the affected zone;
- d) Review of the demarcation of the affected zone, with possible expansion thereof, according to the information collected during inspections/investigations;
- e) Placement of interdiction signs in strategic locations;
- f) Inspection of breeding establishments and swine slaughterhouses located in the internal protection and external surveillance zones;
- g) Composition of the committees in charge of emergency actions.

## **VIII. PROCEDURES TO BE ADOPTED DURING A SANITARY EMERGENCY**

### **1. Measures related to the focus**

#### **1.1 Evaluation of animals, products and materials**

Exposed animals as well as contaminated products and materials should be previously evaluated before killing and destruction.

The evaluation will be performed by the corresponding committee and the values recorded in the Term of Evaluation, which will contain all the criteria used (race, age, sex, identification and weight among others).

Any dispute with respect to the values assigned will not prevent the sanitary action from going forward.

## 1.2. Sanitary killing:

- a) Swine infected with CSF and direct contacts thereof will be submitted to sanitary killing in breeding establishment itself or in any other suitable location, at the discretion of the Field Coordinator, after having been evaluated and within no more than 24 hours after receipt of the killing order issued by the Department of Animal Defense (DDA);
- b) Indirect contact swine housed in the same breeding establishment (focus) will be submitted to a risk assessment and may be sent for sanitary killing or sanitary slaughter.  
In the case of sanitary slaughter, contact animals will be sent to slaughterhouses subject to federal or state inspection, at the discretion of the official veterinary service.
- c) In the case of sanitary killing of swine, the provisions of specific legislations should apply;
- d) These tasks are performed by the Killing and Destruction Committee under the supervision of an official veterinarian, and public access to the site should be prevented by the military police;
- e) Operationalization:
  - Written notification should be sent to the owner of the animals to be killed, with the necessary details to prevent the work from being delayed;
  - The killing will be carried out by members of the armed or public security forces, with subsequent destruction of the carcasses by burial and/or cremation. Burial is, in general, the most suitable and practical method;
  - The operation should be scheduled in such a way so as to allow the Killing and Destruction Committee to arrive at the site after completion of the preliminary work;
  - Caliber 22 firearms can be used to kill sick animals and their contacts, with a shot in the cranial region or other appropriate method. The animals should be killed inside trenches and their abdominal cavities open;
  - Any unnecessary movement of the animals should be avoided and care should be taken to prevent them from escaping when being conducted to the trenches.

## 1.3. Destruction of killed animals

The place for the destruction of killed animals should be carefully selected, according to the directions of the environmental protection agency. Factors such as soil condition, proximity to the focus, safety of facilities, dominant winds and isolation of the area to avoid public presence should be taken into account.

### 1.3.1 - Cremation

- a) A shallow trench, no deeper than one meter, should be excavated. A layer of firewood or thick wood should be placed diagonally in the trench, which should be filled with straw, thin wood or charcoal soaked in kerosene or diesel oil;
- b) The dead animals should be lined up on this layer of firewood, alternating head and tail. Additional wood or charcoal soaked in diesel or kerosene should be placed over and around the dead animals. Use a torch launched from a safe distance or a gunpowder trail to light the fire;
- c) Estimates show that cremating 250 adult swine requires around 6 tons of charcoal, ½ a ton of wood, 75 liters of diesel, and 45 kilos of straw or thin wood;
- d) Cremation should be followed by burial; the entire process should be monitored by an official employee.

### 1.3.2 – Burial

- a) The trenches should be built preferably in the dominant direction of the winds, and be 2.5 meters deep and 2.5 meters wide. The length will depend on the number of animals – 1.5 meter per each 5 adult swine. Dead animals should be laid down side by side, alternating head and tail;
- b) The ramp down the trench should be smooth. Lime should not be used, as it delays the natural decomposition process that favors inactivation of the virus;
- c) Once the trenches have been covered, it is recommended that the area be surrounded with a wire net, so as to prevent small animals from approaching and excavating the site;
- d) It is recommended that the trenches and adjacent areas be inspected at least once a week, until the breeding establishment has been repopulated.

#### 1.4 – Clean-up and Disinfection

Clean-up and disinfection are very important operations to ensure the inactivation of an infecting agent in a establishment and, consequently, to prevent the disease from disseminating. They include preliminary disinfection, followed by thorough cleaning and washing and, finally, definitive disinfection. The material collected in the facilities after the first disinfection operation should be completely destroyed by burial or cremation.

Following the killing and burial or cremation, all machines, equipment and materials used by the team that carried out the work should be disinfected using one of the following products:

- a) Phenol at 3%;
- b) Strong iodophors (1%) in phosphoric acid;
- c) Cresol;
- d) Sodium hydroxide at 2%;
- e) Formalin at 1%;
- f) Sodium carbonate ( 4% anhydrous or 10 % crystalline, with 0.1 % detergent);
- g) Ionic and non-ionic detergents;

#### 1.5 – Sanitary void, introduction of sentinels and repopulation

##### a) Sanitary void

Sanitary void is the time period between the completion of cleaning and disinfection and the introduction of sentinel swine, with a view to destroying the natural infectious agent in the environment. This stage should last a minimum of 10 days and during this time other disinfection operations can be performed.

##### b) Introduction of sentinel swine

- Cleaning, disinfection and sanitary void do not fully guarantee the destruction of the CSF virus in an infected establishment. As a result, the entry, under strict control, of susceptible animals is authorized, so as to prove the absence of viral activity in the environment;
- The introduction of sentinel swine in the focus under eradication will start after the end of the sanitary void and the adoption of other measures provided for in this Contingency Plan. It should start with 5% cent of the population that existed in the focus or at least 5 swine no older than 60 days. These animals should be distributed in such a way so as to cover all premises in the breeding establishment;
- The sentinel swine must have been born and resided in farms officially recognized as free of CSF. Swine born and raised in breeding establishments with a different sanitary status should submitted to individual serological control; the presence of antibodies specific to the CSF virus should not be detected;

- Sentinel swine should be identified by earrings and will be submitted to individual serological control at 15 and 30 days from the date of introduction, with a view to the detection of antibodies specific to the CSF virus;
- Sentinel swine will remain in the property until the second laboratory report is received, showing negative results. During this time, the animals should be submitted to weekly clinical examinations, with their body temperature taken. Cleaning and disinfection measures should be maintained for those entering or exiting the breeding establishment.

c) Control of sentinel animals

- Where a sentinel swine yields a positive serological result, all the other animals will be killed, and the process of cleaning, disinfection, sanitary void and new introduction of sentinels will be restarted;
- Where a sentinel swine yields a negative serological result, the animals should be sent for slaughter in a packing house subject to federal inspection and the repopulation process will start.

d) Repopulation

Repopulation of the breeding establishment will only be authorized after the results of the second serology of swine sentinels, yielding negative results, are received. After this period of time, the establishment will be released.

## 2. Epidemiological Tracing

Once the focus has been confirmed, a quick and effective field tracing should be performed and the transit of animals, products and byproducts of swine origin should be assessed, with the objective of controlling the situation by determining the origin of the focus. Tracing is necessary to enable identifying the herds exposed and prevent the disease from spreading.

It should be performed by a specific team in each zone (zones of internal protection and external surveillance) and in other areas as well, when the investigation so recommends. Tracing in those other areas will be determined by the Field Coordinator and will be under the responsibility of the corresponding Local Unit.

Depending on the transit survey, tracing can require a large number of people, under systematic and careful coordination.

Aspects to be traced:

- a) Previous facts relating to the origin of the focus, as well as its possible dissemination to other establishments and municipalities in the 30 days before the disease was detected, with an investigation of the transit of animals and people, transportation of products, fairs, slaughterhouses and buyers that had contact with the infected establishment before the restrictions had been defined.
- b) As regards the transit of swine, reproduction materials, products and byproducts of swine origin:
  - If the establishment is being disinfected for some time already, all possible information on the movement of swine, products and byproducts thereof, excrements, equipment belonging to the breeding establishment, vehicles, food leftovers, people, pets and other relevant information should be obtained from the owner and his/her employees immediately after confirmation of the diagnosis and together with the beginning of eradication actions;

- Determine the date, type of transit and destination with the exact location, so as to ensure the quick identification of the breeding establishments exposed;
  - Record on the municipality's map, in details, the transit involving existing breeding establishments.
- c) As regards slaughterhouses and byproduct industries:
- Trace fresh, cold or frozen products and byproducts of animal origin. The transit should be evaluated by risk analysis as a potential factor of disease dissemination.
- d) Veterinarians and independent professionals linked to the field, who perform their activities in the infected zone should be informed of the presence of the disease and provide the official veterinary service with a list of all the breeding establishments visited in the past seven days.

### **3. Measures to be taken in the internal protection zone**

- Prohibit the transit of swine from establishments located in the internal protection zone as well as the transit of materials that could be contaminated, such as animal food and excrements originating in the internal protection zone;
- Immediately perform the epidemiological tracing;
- Permit only the transit of clean and disinfected vehicles and equipment, pursuant to the procedures defined by the official veterinary service following inspection by an official employee;
- The transit of animals of other species from breeding establishments located in the internal protection zone as well as the entry of animals in those same breeding establishments will only be permitted if authorized by the official veterinary service.

#### 3.1 – Actions to be developed:

##### 3.1.1 – Interdiction:

In the internal protection zone, the interdiction period of any breeding establishment will be of up to 21 days after completion of the preliminary focus cleaning and disinfection operations. The animals may be sent for slaughter, subject to a risk assessment and control by the official veterinary service.

In the interdiction process, the quarantine may be one of the following:

- Full quarantine: full restriction of animal transit for a minimum period of 21 days;
- Short quarantine: selective restriction of the transit of animal and products and byproducts of animal origin. It is generally applied according to actual or presumed differences in susceptibility and justifiable economic reasons.

##### 3.1.2. Population census

The official veterinary service should carry out a census of the swine population existing in all establishments located in the zone, no later than seven days after establishment thereof.

#### a) Controlling the Transit of Swine and Animal Reproduction Material

- i. Restriction involving the circulation and transportation of swine and animal reproduction material in public or private routes. This restriction may not be applied in the following situations:

- Transit through the internal protection zone by road or railway, without stops or unloading therein;
- Swine originating outside the internal protection zone and intended directly to slaughterhouses located in the same zone, as long as they are transported in vehicles sealed in the origin by the official veterinary service.
- ii. Restriction involving the transit of animals of other species originating in establishments located in the internal protection zone.
- iii. Prohibition to take swine and animal reproduction material out of any breeding establishments, up to 21 days after completion of the preliminary cleaning and disinfection operations in the focus. The animals may be sent for slaughter, subject to a risk assessment and control by the official veterinary service.

### 3.1.3. Transit of products and byproducts of swine origin and other materials

Only the transit of clean and disinfected vehicles and equipment will be permitted, pursuant to the procedures defined by the official veterinary service following inspection by an official employee.

The transit of materials that could be contaminated such as animal food, excrements and garbage leak originating in the internal protection zone, as well as in any breeding establishment or slaughterhouse.

#### 3.1.3.1. Permission for the removal of swine

##### i. Directly to slaughterhouses

At the end of the epidemiological tracing period and after the risk assessment, the official veterinary service may authorize the removal of swine directly to slaughterhouses under federal or state inspection, provided that the following conditions are satisfied:

- Inspection of all swine in the breeding establishment;
- Clinical examination of swine intended for immediate slaughter, including taking the temperature of some animals selected at the discretion of the official veterinarian;
- Identification of the animals by the official veterinarian, using earrings or any other approved identification system;
- Transport of the animals in disinfected and sealed vehicles, accompanied with the Animal Transit Form (GTA), with identification of the route on the back thereof;
- Communication to sanitary authority responsible for the slaughterhouse;
- Upon arrival in the slaughterhouse, swine originating in the internal protection zone should be kept isolated and be slaughtered at the end of the killing. During *ante-* and *post-mortem* inspection, the sanitary authority should look for signs and injuries related to the presence of infection by the CSF virus;
- The vehicle and equipment used to transport the swine should be immediately washed and disinfected, under the supervision of the official veterinarian.

##### ii. To breeding establishments within the internal protection zone

Twenty one days after completion of the preliminary cleaning and disinfection operations in the focus and subject to a risk assessment, the official veterinary service may authorize the removal of swine from establishments located in the internal protection zone, directly to another breeding establishment in the same zone, provided that the following conditions are satisfied:

- Inspection of all swine in the breeding establishment;



- Clinical examination of the swine to be removed, including taking the temperature of some animals selected at the discretion of the official veterinarian;
- Identification of the animals by the official veterinarian, using earrings or any other approved identification system;
- Cleaning and disinfection, after each operation, of the vehicles and equipment used to transport swine.

#### 3.1.4 – Maintenance of measures:

The measures applied in the internal protection zone will be maintained until the established actions have been completed and a serological inquiry comprising all the breeding establishments in the zone has been performed. This inquiry will be performed when at least 30 days have elapsed after completion of the preliminary cleaning and disinfection operations in the focus, according to a sample to be defined by the Department of Animal Defense of the Ministry of Agriculture, Livestock and Food Supply (DDA/MAPA), and no antibodies specific to the CSF virus have been detected.

### 4. Measures to be taken in the external surveillance zone

#### 4.1. Action to be developed:

##### 4.1.1. Interdiction:

In the external surveillance zone, the interdiction period of any breeding establishment will be of up to 10 days after completion of the preliminary focus cleaning and disinfection operations. The animals may be sent for slaughter subject to a risk assessment and control by the official veterinary service.

In the interdiction process, the quarantine may be one of the following:

- Full quarantine: full restriction of animal transit for a minimum period of 21 days;
- Short quarantine: selective restriction of the transit of animal and products and byproducts of animal origin. It is generally applied according to actual or presumed differences in susceptibility and justifiable economic reasons.

##### 4.1.2. Population census

The official veterinary service should carry out a census of the swine population existing in all establishments located in the zone, no later than seven days after establishment thereof.

##### 4.1.3. Transit of products and byproducts of swine origin and other materials

- i. Restriction involving the circulation and transportation of swine and animal reproduction material in public or private routes. This restriction may not be applied in the following situations:
  - Transit through the external surveillance zone by road or railway, without stops or unloading therein;
  - Swine originating outside the internal protection zone and intended directly to slaughterhouses located in the same zone, as long as they are transported in vehicles sealed in the origin by the official veterinary service.
- ii. Restriction involving the transit of animals of other species originating in establishments located in the external surveillance zone.

- iii. Prohibition to take swine and animal reproduction material out of any breeding establishments, up to 21 days after completion of the preliminary cleaning and disinfection operations in the focus. The animals may be sent for slaughter subject to a risk assessment and control by the official veterinary service.

#### **4.1.3.1. Permission for the removal of swine**

- i. Directly to Slaughterhouses

The official veterinary service may authorize the removal of swine directly to slaughterhouses subject to federal or state inspection, preferably located in the internal protection zone or in the external surveillance zone, provided that the following conditions are satisfied:

- Inspection of all swine in the breeding establishment;
- Clinical examination of the swine intended for immediate slaughter, including taking the temperature of some animals selected at the discretion of the official veterinarian;
- Identification of the animals by the official veterinarian, using earrings or any other approved identification system;
- Transport of the animals in disinfected and sealed vehicles, accompanied with the Animal Transit Form (GTA), with identification of the route on the back thereof;
- Communication to the sanitary authority responsible for the slaughterhouse;
- Upon arrival in the slaughterhouse, swine originating in the internal protection zone should be kept isolated and slaughtered at the end of the killing. During *ante-* and *post-mortem* inspection, the sanitary authority should look for signs and injuries related to the presence of infection by the CSF virus;
- The vehicle and equipment used to transport the swine should be immediately washed and disinfected, under the supervision of the official veterinarian.

- b) To breeding establishments located in the external surveillance zone:

Ten days after completion of the preliminary cleaning and disinfection operations in the focus and subject to a risk assessment, the official veterinary service may authorize the removal of swine from establishments located in the external surveillance zone, directly to another breeding establishment in the same zone, provided that the following conditions are satisfied:

- Inspection of all swine in the breeding establishment;
- Clinical examination of the swine before loading, including taking the temperature of some animals selected at the discretion of the official veterinarian;
- Identification of the animals by the official veterinarian, using earrings or any other approved identification system;
- Cleaning and disinfection, after each operation, of the vehicles and equipment used to transport swine.

#### **4.1.4. Maintenance of measures**

The measures applied in the in the external surveillance zone will be maintained until the established actions have been carried out and a serological inquiry comprising all the breeding establishments in the zone has been performed. This inquiry will be performed when at least 15 days have elapsed after completion of the preliminary cleaning and disinfection operations in the focus, according to a sample to be defined by the Department of Animal Defense of the Ministry of Agriculture, Livestock and Food Supply (DDA/MAPA), and no antibodies specific to the CSF virus have been detected.

## 5. Procedures in Slaughterhouses

- a) Receiving of animals from the internal protection zone – already described in the item on internal protection zone.
- b) Receiving of animals from the external surveillance zone – already described in the item on external surveillance zone.
- c) Findings suspicious of CSF – where the *ante-mortem* examination reveals clinical signs or findings of injuries consistent with CSF in the slaughter line, the veterinarian responsible for the sanitary inspection in the slaughterhouse will take the following measures:
  - i. Immediately notify the official veterinary service, so that it can perform an epidemiological investigation;
  - ii. Immediately slaughter all swine in the slaughterhouse and collect material for laboratory diagnosis;
  - iii. Collect material from carcasses with injuries suspicious of CSF and forward it to the laboratory;
  - iv. Destroy, under official control, all carcasses and offal, so as to prevent CSF from disseminating. The products could be used under certain conditions, after a risk assessment has been performed by the official veterinary service. In this case, the products will be prohibited for exporting;
  - v. Wash and disinfect all premises and equipment, including the vehicles used to transport infected swine, under the surveillance of the veterinarian responsible for the sanitary inspection in the slaughterhouse, according to the rules of the official veterinary service;
  - vi. Reintroduction of swine for slaughter in slaughterhouses where CSF outbreaks have been identified, will only be authorized at least 24 hours after completion of the cleaning and disinfection operations.

## 6. Fixed and mobile inspection posts

These posts are used with the objective of circumscribing an emergency zone using transit control and disinfection measures to prevent CSF from spreading.

The main objective of these posts is to ensure fulfillment of the measures relating to the transit of animals, product, byproducts, animal reproduction material, vehicles, people, and other materials that could transmit the agent between each of the areas.

They will be established within the perimeter of each of the demarcated zones and should be in operation within 12 hours after the emergency has been established.

The teams that will be working in these posts should include representatives of the official veterinary service and of the public security forces and be equipped with permanent means of communication with each other and with the Field Coordination, so as to ensure fulfillment of the sanitary measures adopted.

## 7. Vaccination against CSF

- a) In exceptional cases, where the risk of CSF dissemination has been determined after an evaluation of the epidemiological situation and at the discretion of the official veterinary service, the emergency use of vaccine may be authorized, subject to a specific plan approved by the DDA that includes:
  - Extension and demarcation of the geographic area where the vaccination will take place;
  - Categories and estimated number of swine to be vaccinated;
  - Duration of the vaccination schedule;

- Measures applicable to the transportation of swine and products thereof;
  - Identification of vaccinated swine, in the case of vaccination in breeding establishments located in a free zone, for subsequent sanitary slaughter;
  - Supervision and follow-up of vaccination by the official veterinary service.
- b) In the case of emergency use of vaccine against CSF in a free zone or in part of the territory of a free zone, this will lose the status of free, which can only be regained when the conditions set out in the OIE International Zoosanitary Code are met.
- c) Only vaccines against CSF registered with MAPA and produced under the control of the official veterinary service can be used.

**ANNEX I****EQUIPMENT AND MATERIALS FOR EMERGENCY ACTIONS - CSF**

Have the following equipment and materials available, preferably disposable, where possible. As a good management practice, units of these materials, organized in metallic or plastic boxes, should be permanently ready.

- 1) Aprons
- 2) Rubber boots and shoe protectors
- 3) Impermeable pants, jacket, and cap
- 4) Rubber and/or disposable gloves
- 5) Cotton and/or paper towels
- 6) Clinical thermometers
- 7) Tweezers
- 8) Scissors
- 9) Syringes and needles
- 10) Gauze
- 11) Blindfold for containing boars
- 12) Adhesive tape and/or another identification label
- 13) Pencil and pen
- 14) Plastic bags for samples
- 15) Vials and needles for collecting blood
- 16) 100x20 or 80x15 needles
- 17) Syringes
- 18) Pipe
- 19) Thick bow or rope
- 20) Plastic bucket
- 21) Sponge
- 22) Brush
- 23) Soap
- 24) Sodium carbonate or another agent
- 25) Portable sprinkling equipment
- 26) FORM-IN
- 27) Term of interdiction
- 28) Term of Visit to a Swine Farm
- 29) Box with necropsy instruments
- 30) Bags for residues
- 31) Means of identification: tattooer, pliers for earrings, earrings, marking stick
- 32) Isothermal boxes and ice
- 33) Manual spraying pump
- 34) Mechanical spraying pump
- 35) Map of the municipality and region
- 36) GPS
- 37) Drawing boards

## ANNEX II

### CHARACTERISTICS OF CLASSICAL SWINE FEVER – OIE

#### ETIOLOGY

1. Classification of the causal agent

Virus of the *Flaviviridae* family, *Pestivirus* gender.

2. Reaction to physical and chemical action

Temperature:	Partially resistant to moderate heat (56°C)
pH:	Inactivated at pH < 3.0 or pH > 11.0
Chemical products:	Sensitive to ether, chloroform, $\beta$ -propiolactone 0.4%
Disinfectants:	Inactivated by cresol, sodium hydroxide (2%), formalin (1%), sodium carbonate (4% anhydrous or 10% crystalline, with 0.1% detergent), ionic and non-ionic detergents, strong iodophors (1%) in phosphoric acid
Survival:	Survives well in cold environments and can survive some meat processing methods (cured and smoked)

#### EPIDEMIOLOGY

1. Hosts

Swine and boars are the only natural reservoirs of the Classical Swine Fever (CSF) virus.

2. Transmission

- Direct contact between animals (secretions, excretions, semen, blood);
- Dissemination by persons, utensils, vehicles, clothes, instruments and needles;
- Use of food leftovers without appropriate thermal treatment for animal food;
- Transplacental infection.

3. Virus sources

- Blood and all tissues, secretions and excretions of sick and dead animals;
- Infected swine have a congenital persistent viremia and can excrete viruses for months;
- Infection paths: ingestion, contact with conjunctives, skin injuries, insemination, percutaneous penetration of blood.

4. Geographic distribution

The disease is distributed in most of Asia, South America, parts of Europe and Africa.

5. Diagnosis

The incubation period of the disease is from 7 to 10 days.

a. Clinical diagnosis

- Acute form
  - Fever (41°C), anorexia, lethargy;
  - Multifocal Hyperemia and hemorrhagic skin injuries, conjunctivitis;
  - Skin cyanosis, especially in the extremities (ears, members, snout, tail);
  - Intestinal constipation followed by diarrhea;
  - Vomit;
  - Ataxia, paresis and convulsion. Animals pile up on top of each other;
  - Death within 5 to 14 days from start of the disease;
  - Young animals' mortality rate close to 100%.
- Chronic form
  - Prostration, irregular appetite, fever, diarrhea;
  - Apparent recovery with subsequent relapse and death.
- Congenital form
  - Congenital tremor and weakness;
  - Stunting and death;
  - Clinically normal sucking pigs, but with persistent viremia and no immunitary response.
- Mild form (females)
  - Fever and lack of appetite;
  - Fetal death and re-absorption or mummification, stillbirth;
  - Birth of congenitally infected pigs;
  - Miscarriage (less frequent).

### Injuries

- Acute form
  - Leucopeny and trombocytopeny;
  - Petechias spread ecchymosis, mainly on the skin, in the lymphatic ganglions, larynx, bladder, kidneys and ileocecal valve;
  - Multifocal infarct on the border of the spleen;
  - Hemorrhagic lymphatic ganglions;
  - Encephalomyelitis with perivascular cuffs.
- Chronic form
  - Button-shaped ulcers next to the ileocecal valve and the large intestine;
  - Generalized depression of the lymphoid tissue;
  - Hemorrhagic and inflammatory injuries could be absent.
- Congenital form

- Cerebellar hypoplasia, microencephaly, pulmonary hypoplasia, hydropsis and other malformations.
- b. Differential diagnosis
- African swine fever (the clinical-pathological differentiation is impossible. Material needs to be sent for laboratory diagnosis);
  - Infection by bovine diarrhea virus;
  - Salmonellosis;
  - Erysipelosis;
  - Acute pasteurellosis;
  - Other viral encephalomyelites;
  - Streptococcosis;
  - Leptospirosis;
  - Intoxication by coumarin.
- c. Laboratory diagnosis
- Identification of the agent
    - Direct immunofluorescence test;
    - Viral isolation in cellular culture, with detection of the virus by immunofluorescence or immunoperoxidase. Identification confirmed with monoclonal antibodies.
  - Serological tests
    - ELISA
    - Viral neutralization revealed by peroxidase or by fluorescent antibodies.
  - Samples for identification of the agent: should be kept under refrigeration and sent to the laboratory as soon as possible.
    - Tonsils
    - Lymphatic ganglions (pharyngeal and mesenteric)
    - Spleen
    - Kidneys
    - Distal ileum
    - Blood in EDTA (live animals)
  - Samples for serological tests:
    - Samples of animal serum.

## **PROPHYLAXIS AND PREVENTION**

There is no possible treatment. Infected sucking pigs must be killed and their carcasses buried or incinerated.

1. Sanitary prophylaxis
  - Effective communication among veterinary authorities, independent veterinarians and swine producers;
  - Efficient disease notification system;
  - Strict policy for the importing of live swine, fresh and cured swine meat;



- Prohibition to use or obligation to adopt adequate thermal treatment for the use of food leftovers for swine;
  - Efficient control over swine slaughterhouses;
  - Systematic serological surveillance of swine intended for reproduction;
  - Maintenance of an efficient swine identification system.
2. Medical prophylaxis
- Free countries: vaccination is prohibited;
  - Infected countries: vaccination with modified live virus is efficient to control the disease, but by itself will not completely eliminate the infection.
3. Measures to be taken in the focus
- Killing of all infected swine;
  - Elimination of carcasses, beds, excretions, etc.;
  - Thorough disinfection;
  - Identification of the infected zone, with transit control;
  - Detailed epidemiological investigation, with tracing of possible sources of infection and dissemination of the disease;
  - Surveillance in the infected zone and surrounding region.